be configured to control splice operations by exposing the waveguide sections 102-104 at each power level for corresponding predetermined amounts of time, with the exact times and power levels determined, for example, based on the exact dimensions and materials of the optical waveguide sections 102-104.

[0028] FIG. 2 is a flow diagram of exemplary operations 200 for splicing optical waveguide sections in accordance with one embodiment of the present invention. The operations 200 may be performed by components of the system 100. Thus, the operations 200 may be described with reference to FIG. 1, as well as FIGs. 3-6 which illustrate waveguide sections 102-104 at various stages of splice processing, according to various embodiments.

[0029] The operations 200 begin, at step 202, by preparing ends of large diameter optical waveguide sections to be spliced. The optical waveguide sections to be spliced, whether they are large diameter collapsed pigtails, such as those described in co-pending commonly owned US Patent Application Attorney Docket Number CC-0366, cane type waveguide structures, or other type waveguide structures, may be first cut and polished on ends to be fused. As illustrated in FIG. 3, each section 102-104 may be cut flat across a cross-section and ends 302-304 may be polished to achieve a slight curvature. The curvature of the ends 302-304 may allow cores 306 of the waveguide sections 102-104 to be aligned and prevent the possibility of trapping air therebetween during fusion. If the curvature is not present, the ends 302-304 must be more closely matched with a flat polish, which may complicate alignment. In any case, polished ends 302-304 may be cleaned, for example, with an acetone wipe, followed by a methanol wipe and may further be blown with clean air before fusing.

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[0030] At step 204, the waveguide sections are aligned and, at step 206, one or more reference measurements of optical loss through the waveguide sections before splicing are taken. For example, the sections 102-104 may be mounted in their corresponding stages 103-105, configured to allow X, Y, Z, and angular alignment. For some embodiments, the stages 103-105 may be angularly aligned to